

IN THE CLAIMS:

Claim 6 has been amended herein. All of the pending claims 1 through 28 are presented, pursuant to 37 C.F.R. §§ 1.121(c)(1)(i) and 1.121(c)(3), in clean form below. Please enter these claims as amended. Also attached is a marked-up version of the claims amended herein pursuant to 37 C.F.R. § 1.121(c)(1)(ii).

1. A method for fabricating an interconnect adjacent a contact of a semiconductor device structure, comprising:
depositing metal silicide directly onto at least one exposed, doped area of the semiconductor device structure without substantially depositing metal silicide onto locations of the semiconductor device structure that are laterally adjacent said at least one exposed, doped area; and
depositing an interconnect material onto said metal silicide in situ with said depositing said metal silicide.
2. The method of claim 1, further comprising exposing said at least one exposed, doped area of the semiconductor device structure to a plasma.
3. The method of claim 2, wherein said exposing comprises exposing said at least one exposed, doped area of the semiconductor device structure to a plasma comprising an activated species of at least one of nitrogen, hydrogen, and ammonia.
4. The method of claim 1, further comprising cleaning the semiconductor device structure.
5. The method of claim 4, wherein said cleaning includes employing a cleaning agent comprising at least one of chlorine, hydrochloric acid, and hydrofluoric acid.

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6. (Amended) The method of claim 1, further comprising cleaning the semiconductor device structure after said depositing said metal silicide.

7. The method of claim 6, wherein said cleaning includes employing a cleaning agent comprising at least one of chlorine, hydrochloric acid, and hydrofluoric acid.

8. The method of claim 1, wherein said depositing said metal silicide comprises depositing titanium silicide.

9. The method of claim 1, wherein said depositing said interconnect material comprises blanket depositing said interconnect material.

10. The method of claim 9, further comprising patterning said interconnect material.

11. The method of claim 1, wherein said depositing said interconnect material comprises selectively depositing said interconnect material.

12. The method of claim 1, further comprising depositing a layer comprising electrically conductive material over said interconnect material.

13. The method of claim 12, further comprising patterning said layer.

14. The method of claim 1, wherein said depositing said interconnect material comprises depositing at least one of titanium and titanium nitride.

15. The method of claim 1, wherein said depositing said metal silicide comprises reacting a metallic precursor with a silicon-containing compound.

16. The method of claim 15, wherein said reacting comprises reacting a metallic precursor comprising at least one of a titanium tetrahalide, a subhalide, and a $\text{Ti}(\text{NR}_2)_4$, where R is selected from the group consisting of hydrogen and alkyl groups, with said silicon-containing compound.

17. The method of claim 15, wherein said reacting comprises reacting said metallic precursor with a silicon-containing compound comprising at least one of a silane, a dichlorosilane, and a $\text{Si}_n\text{H}_{2n+2}$, where n is an integer equal to zero or more.

18. The method of claim 1, wherein said depositing said interconnect material comprises reacting a metallic precursor with a reactant comprising at least one of ammonia, nitrogen trifluoride, an organic silane reactive gas, and an activated species.

19. The method of claim 18, wherein said reacting comprises reacting a metallic precursor comprising at least one of a titanium tetrahalide and a $\text{Ti}(\text{NR}_2)_4$, where R is selected from the group consisting of hydrogen and alkyl groups, with said reactant.

20. A method for fabricating a selective contact and a local interconnect on a semiconductor device structure, comprising:
depositing a contact material directly onto an exposed active device region of the semiconductor device structure without substantially depositing contact material onto locations of the semiconductor device structure that are laterally adjacent said exposed active device region; and
depositing an interconnect material onto said contact material in situ with said depositing said contact material.

21. The method of claim 20, further comprising exposing the semiconductor device structure to a plasma.

22. The method of claim 21, wherein said exposing comprises exposing the semiconductor device structure to a nitrogen-ammonia plasma.

23. The method of claim 20, further comprising depositing an electrically conductive material onto said interconnect material.

24. The method of claim 20, wherein said depositing said interconnect material comprises selectively depositing said interconnect material.

25. The method of claim 20, wherein said depositing said interconnect material comprises blanket depositing said interconnect material.

26. The method of claim 25, further comprising patterning said interconnect material to form at least one interconnect therefrom over said contact material.

27. The method of claim 20, wherein said depositing said contact material comprises depositing a selective contact material.

28. The method of claim 27, wherein said depositing said selective contact material comprises depositing a metal silicide.